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Water Levels for the Great Lakes and Montreal Harbour ... *a monthly bulletin from Canadian Hydrographic Service*

About the monthly Water Level bulletin

November Precipitation Over the Great Lakes

As a percentage of the long-term November average:

Great Lakes Basin	99%
Lake Erie (including Lake St. Clair)	60%
Lake Superior	133%
Lakes Michigan-Huron	102%
Lake Ontario	63%

Note: These figures

LEVEL news

Great Lakes - St. Lawrence River Water Levels

Volume 6, Number 12 **December 7, 1998**

Dry Weather Persists Over Lower Lakes' Basin

Lake Levels Continue Their Sharp Decline

Water levels on all of the Great Lakes continued to decline rapidly during November. It was another month of significantly below average precipitation over all of the basin except for the Lake Superior area.

While Lake Superior's water level declined by a lesser amount than did the other lakes, it continued its downward trend. The lake was at its lowest November level since 1926, and it was very close to chart datum all month. At the beginning of December, Lake Superior's level was 26 centimetres below average level.

In late November, Lake Huron's level declined to below average, for the first time in three years. The combination of dry conditions and very low inflow from Lake Superior contributed to this decline. At the beginning of December, Lake Huron was one centimetre below its average level.

Despite a sharp decline, both Lakes St. Clair and Erie remain above their average levels. At the beginning of December, they were six and eight cm, respectively, above average.

Lake Ontario also continued to decline, but the rate slowed down as the month progressed. The level was virtually constant over the last week of the month. At the beginning of December, the lake was 23 cm below average.

During much of November, the water level at Montreal harbour was very close or slightly below chart datum, a condition brought on by decreasing Lake Ontario outflows and very low flows from the Ottawa River and other tributaries to the St. Lawrence River. This has seriously affected navigation at Montreal. To provide some relief at Montreal harbour, the International St. Lawrence River Board of Control authorized some limited increase in Lake Ontario outflows. By the end of November, the Board's action had lowered Lake Ontario's level by three centimetres from what it otherwise would have been. While the extra discharge did help the level at Montreal harbour, it was still one metre below average and the November level was a new record low since 1967 for the harbour.

Lake Michigan Potential Damage Study Underway

are preliminary.

November Outflows From the Great Lakes

As a percentage of the long-term November average:

Lake Superior	69%
Lake Erie	104%
Lake Huron	101%
Lake Ontario	99%

Note: These figures are preliminary.

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Summary information for "LEVEL*news*"

In 1996 the U.S. Army Corps of Engineers began a study to develop a method for evaluating the potential for damages along the shore of Lake Michigan. This project was in response to one of the recommendations of the International Joint Commission's Levels Reference Study completed in 1993.

Most of the damages along Lake Michigan's shore are the result of erosion. This project is placing particular emphasis on understanding the relationship between water levels and erosion, and the relationship between erosion and shore damage values.

Since Lake Michigan is entirely within the United States, the project is totally funded within the U.S. However, it is hoped that the methods developed for this study will form the basis for future similar studies on other Great Lakes. For this reason, there is Canadian participation on the team that is directing the study.

Further information on the project is available on the World Wide Web. This Web site is presently under construction, and more information will be added to it over the coming months.

Shore Well Problems

In many areas along the shores of the Great Lakes, cottages and homes obtain their water supply from the lake by means of a shore well. The water level inside the shore well is the same as the lake's level. With the decline in lake levels, many of these shore wells are going dry.

Initially the problem may be intermittent, as the lake's level goes up and down in response to winds pushing the water from one side of the lake to the other. The interruption in water supply can become continuous with a larger decline in the lake's level. In other cases, the first sign of a problem is a slow recovery rate in the well after pumping.

This problem is particularly severe at the eastern end of Lake Ontario, where shore wells are very common, and along Lake Superior. While Lake Ontario is typically at its lowest level of the year by now, it is very possible that its level could continue to decline through the early part of winter, and it is virtually certain that Lake Superior's level will decline over the winter. As a result, the problem could become more prevalent over the next few months. More shore wells on the other lakes may also be affected, should their levels continue to decline.

As winter approaches, the risk of supply lines freezing is increased by the lower lake levels. Lines that are buried underwater are more susceptible since there is less water depth to provide insulation.

Lake Ontario Lowest Since 1965

Lake Ontario's November level of 74.34 metres was the lowest monthly level since 1965. It was two cm lower than the level of November 1991.

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URL: http://www.on.ec.gc.ca/water/level-news/lvn98dec.html